

- B¹
- 1 1. (Twice Amended) A method for dithering color in a graphics system that displays a
2 group of pixels and wherein the color of the pixels is represented by color shades
3 having fewer than eight bits, comprising the steps of:
- 4 (a) generating an eight bit color shade value for each pixel representing a desired
5 color for each pixel;
- 6 (b) truncating the desired eight bit color shade value to obtain a truncated color
7 shade value;
- 8 (c) generating a FRAC value for each pixel from the truncated bits of said eight
9 bit color shade value;
- 10 (d) producing a ramp value for each pixel using said FRAC value, wherein said
11 ramp value encodes a discrepancy between the desired eight bit color shade
12 value and the truncated color shade value; [and]
- 13 (e) ~~mapping a dither value to a bit position within said ramp value; and~~
- 14 (f) using a [single] bit from said ramp value to select a color shade value of fewer
15 than eight bits that determines the color of each pixel.

- B²
- 1 6. (Unchanged) A method for dithering pixel color in a graphics system that displays a
2 group of pixels in which primary pixel colors are represented by color shades having fewer than
3 eight bits comprising the steps of:
- 4 (a) generating an eight bit color shade value for each pixel representing a desired
5 color for each pixel;
- 6 (b) truncating the desired eight bit color shade value to produce a first color shade
7 value comprising fewer than eight bits;
- 8 (c) generating a FRAC value for each pixel representing the truncated bits of said
9 desired eight bit color shade value;
- 46

- B2
cancel.*
- 10 (d) producing a ramp value for each pixel using said FRAC value, wherein said
11 ramp value encodes a discrepancy between the desired eight bit color shade
12 value and the first color shade value;
13 (e) producing an addend value for incrementing said first color shade value;
14 (f) incrementing said first color shade value by said addend value to produce a
15 second color shade value;
16 (g) mapping a dither value to a bit position within said ramp value; and
17 (h) selecting said first color shade value or said second color shade value to
18 determine the color of each pixel in said group of pixels.

- B3*
- 1 12. (Amended) A graphics system that displays color shades based upon binary
2 representation having fewer than eight bits, wherein said graphics system initially receives a
3 desired eight bit binary representation for each color shade that is used by the graphics system to
4 render pixels in a pixel grid, said desired eight bit binary representation including upper order
5 bits and lower order bits, comprising:
6 select fractional logic that receives the desired eight bit binary representation and wherein
7 said select fractional logic produces on its output lines the lower order bits of said
8 desired eight bit binary representation value;
9 a look-up table that produces a control value based upon an address of each pixel; and
10 ramp probability logic coupled to said select fractional logic [and said look-up table], said
11 ramp probability logic producing a ramp value that encodes a discrepancy
12 between said desired eight bit binary representation and said binary
13 representations having fewer than eight bits[.] and
14 mapping logic coupled to said look-up table and ramp probability logic, said mapping
15 logic mapping a look-up table value to a bit position within said ramp value.